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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/066,061	04/24/1998	MATTHEW ZAVRACKY	KPN97-04A2	8310
21005	7590	10/23/2006		
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			EXAMINER NGUYEN, JIMMY H	
			ART UNIT 2629	PAPER NUMBER

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/066,061	Applicant(s) ZAVRACKY ET AL.	
	Examiner Jimmy H. Nguyen	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/31/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14,16,17,25-29 and 39-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14,16,17,25-29 and 39-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/31/2006 has been entered. Claims 14, 16, 17, 25-29 and 39-58 are currently pending in the application. An action follows below:

Notice to Applicants

2. In order to fully respond to the Office Action, i.e., to respond the obviousness type double patenting rejection(s), Examiner suggests the Applicants either to provide an argument or to file a Terminal Disclaimer with the amendment or the response, in order to avoid a Notice of Non-Compliant Amendment.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 17, 25-28, 39-41, 43-47, 49-56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis et al. (USPN: 5,867,795), hereinafter Novis, in view of Stewart et al. (USPN: 5,337,068), hereinafter Stewart, and further in view of McKnight (USPN: 5,920,298, cited in IDS filed on 11/22/1999).

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As per claims 14, 25-27, 39-41, 44-46, 49-51, 53-55 and 58, Novis discloses a portable display system (see fig. 1) comprising a portable housing (11), a matrix liquid crystal display (LCD 20/60) mounted to the housing, inherently including an array of pixel electrodes (a visual LCD display 20/60, fig. 8, col. 7, lines 62-66), and having a display area of less than 200mm² (col. 7, lines 26-38, and col. 7, line 62 through col. 8, line 8), a lens (lens 44/62, col. 7, lines 44-46 and lines 58-59) that magnifies an image on the display, and a card reader (a slot 16) within the housing that receives video input to be displayed on the display from a smart card or a memory card (a smart card 18, col. 3, lines 46-51) that docks with the card reader (further see figs. 1, 5 and 8, col. 3, lines 25-51 and col. 7, lines 40-66). Novis does not expressly teach the active matrix LCD being an active matrix color sequential LCD comprising a light source and a display control circuit which includes a first switching circuit, a second switch circuit, and a timing circuit, as presently claimed. Accordingly, Novis discloses all the claimed limitations except for a particular active matrix color sequential LCD comprising a light source and a display control circuit which includes a first switching circuit, a second switching circuit, and a timing circuit, as presently claimed.

However, Stewart discloses a portable display system (col. 2, lines 21-27) comprising an active matrix color sequential LCD (figs. 2A-2B) including an array of pixel electrodes (258), a light source (lamps 202-218) and a display control circuit (a circuit including elements 102-112, see fig. 1), which includes a timing circuit (a circuit including a timing circuitry 110 and a commutator 112), further see fig. 6 and the corresponding description. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to substitute Stewart's the active matrix color sequential LCD for the LCD of Novis because the benefits of

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using the active matrix LCD to enhance the revolution of the display and using the backlight to enhance the luminance of the display, thereby allowing the user to view a better image, are well-known to those of ordinary skill in the art. Accordingly, the combination of Stewart and Novis discloses all the claimed limitations with the exception of the claimed first and second switching circuits.

However, McKnight discloses a related active matrix LCD (see col. 1, lines 7-8) in accordance with a first embodiment, inherently comprising a first switching circuit for switching a common voltage (a common voltage 50, see Fig. 2, col. 5, lines 55-56) applied to counter electrode (common electrode 26, see col. 5, line 56) between a first voltage (V_{MAX}) and a second voltage (V_{MIN}), which is lower than the first voltage (see Fig. 2, col. 5, lines 54-62). McKnight further teaches the LCD inherently comprising a second switching circuit switching between a normal video signal and inverted video signal of the normal video signal, which are independently scanned into the matrix display (see col. 4, line 63 through col. 6, line 16), and a timing circuit that controls switching of the first and second switching circuits, as presently claimed (see Fig. 2, abstract, col. 5, line 40 through col. 6, line 16). Note that McKnight also teaches a LCD of a third embodiment illustrated by Figs. 4A and 4B and described at col. 7, line 4 through col. 8, line 12, which also includes inherent first and second switching circuits and a timing circuit for controlling the switching of the first and second switching circuits. It would have been obvious to one of ordinary skill in the art to provide the first and second switching circuits of McKnight in the display control circuit of Novis in view of Stewart and to modify the timing circuit of Novis in view of Stewart to control the switching circuits, as taught by the McKnight reference, because this would provide a display system in which high image contrast and brightness are

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achieved even at high rates of display, as taught by McKnight (see col. 3, lines 1-3). Also see the Summary of The Invention section for additional benefits.

Regarding to claims 17, 28, 43, 47, 52 and 56, Novis implicitly discloses the array of pixel electrodes comprising an array of at least 640 x 480 pixel electrodes (col. 7, lines 26-38, and col. 7, line 62 through col. 8, line 8).

5. Claims 16 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis in view of Stewart and McKnight, as respectively applied to claims 14 and 41 above, and further in view of Ohtsuki et al. (USPN: 5,786,665), hereinafter Ohtsuki.

Regarding to these claims, Stewart further teach the light source being a fluorescent device (col. 5, lines 10-12), but does not disclose expressly the light source being a light emitting diode (LED) device, as claimed. Accordingly, the combination of Novis, Stewart and McKnight discloses all the claimed limitations except for the fluorescent device instead of the claimed LED device.

However, Ohtsuki disclose a LCD device in which a LED device is used as a light source in order to reduce the thickness of the display device and the cost for a user (col. 35, lines 7-15). It would have been obvious to one of ordinary skill in the art to substitute Ohtsuki's the LED device for the fluorescent device of Novis because this would provide a thinner display device and reduce the cost for a user, as taught by Ohtsuki (col. 35, lines 7-15). Therefore, it would have been obvious to combine Ohtsuki, McKnight and Stewart with Novis to obtain the invention as specified in claims above.

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6. Claims 29, 48 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis in view of Stewart and McKnight, as respectively applied to claims 14, 41 and 51 above, and further in view of Zavracky et al. (USPN: 5,206,749), hereinafter Zavracky.

Regarding to claims above, Stewart further teaches the array of transistor circuits (TFTs 256) formed with polysilicon which is vapor-deposited onto a glass plate (230) (see fig. 2a). Accordingly, the combination of Novis, Stewart and McKnight discloses all the claimed limitations except that the array of transistor circuits is formed with single crystal silicon and is bonded to an optically transmissive substrate with an adhesive layer, as claimed.

However, Zavracky discloses a display system in which the LCD display panel comprising an array of transistor circuits formed with single crystal silicon, and the array of transistor circuits being bonded to an optically transmissive substrate with an adhesive layer (see col. 1, lines 59-68). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize Zavracky's teachings above, i.e., forming an array of transistor circuits with single crystal silicon, and bonding the array of transistor circuits to an optically transmissive substrate with an adhesive layer, in the LCD panel of Novis in view of Stewart and McKnight because this would provide a high quality LCD display panel with a low cost of fabrication, as taught by Zavracky (col. 1, lines 53-56).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 14, 16, 17, 25-29 and 39-58 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-7, 20-22 and 29 of U.S. Patent No. 6,476,784 B2, hereinafter PAT784, and further in view of McKnight.

As to claims above, the patent PAT784 and the pending application are claiming common subject matter, as follows: a portable display system comprising a portable housing, an active matrix color sequential LCD, a light source, a lens, a memory card reader, and a display circuit including a timing circuit and a first switching circuit. Accordingly, the differences between the pending claims and the patent PAT784 claims are the second switching circuit and the timing circuit controlling switching of the first switching circuit and the second switching such that when the second switching circuit switches to the normal video signal when the first switching circuit switches the common voltage to the first voltage, and the second switching circuit switches to the inverted video signal when the first switching circuit switches the common voltage to the second voltage.

However, McKnight discloses a related active matrix LCD (see col. 1, lines 7-8) in accordance with a first embodiment, inherently comprising a first switching circuit for switching a common voltage (a common voltage 50, see Fig. 2, col. 5, lines 55-56) applied to counter electrode (common electrode 26, see col. 5, line 56) between a first voltage (V_{MAX}) and a second voltage (V_{MIN}), which is lower than the first voltage (see Fig. 2, col. 5, lines 54-62). McKnight further

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teaches the LCD inherently comprising a second switching circuit switching between a normal video signal and inverted video signal of the normal video signal, which are independently scanned into the matrix display (see col. 4, line 63 through col. 6, line 16), and a timing circuit that control switching of the first and second switching circuits, as presently claimed (see Fig. 2, abstract, col. 5, line 40 through col. 6, line 16). Note that McKnight also teaches a LCD of a third embodiment illustrated by Figs. 4A and 4B and described at col. 7, line 4 through col. 8, line 12, which also includes inherent first and second switching circuits and a timing circuit for controlling the switching of the first and second switching circuits. It would have been obvious to one of ordinary skill in the art to provide the second switching circuit of McKnight in the display control circuit of the patent claims and to modify the timing circuit of the patent PAT784 claims to control the switching circuits, as taught by the McKnight reference, because this would provide a display system in which high image contrast and brightness are achieved even at high rates of display, as taught by McKnight (see col. 3, lines 1-3). Also see the Summary of The Invention section for additional benefits.

9. Claims 14, 16, 17, 25-29 and 39-58 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-7, 20-22 and 29 of U.S. Patent No. 6,476,784 B2, hereinafter PAT784, and further in view of U. S. Patent No. 6,552,704 B2, hereinafter PAT704.

As to claims above, the patent PAT784 and the pending application are claiming common subject matter, as follows: a portable display system comprising a portable housing, an active matrix color sequential LCD, a light source, a lens, a memory card reader, and a display circuit including a timing circuit and a first switching circuit. Accordingly, the differences between the

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pending claims and the patent claims are the second switching circuit and the timing circuit controlling switching of the first switching circuit and the second switching such that when the second switching circuit switches to the normal video signal when the first switching circuit switches the common voltage to the first voltage, and the second switching circuit switches to the inverted video signal when the first switching circuit switches the common voltage to the second voltage.

However, claim 1 of PAT704 discloses a related active matrix LCD comprising a first switching circuit for switching a low (second) or high (first) common voltage applied to counter electrode, a second switching circuit switching between a normal video signal and inverted video signal of the normal video signal, which are independently scanned into the matrix display, and a timing circuit that control switching of the first and second switching circuits, as presently claimed. It would have been obvious to one of ordinary skill in the art to provide the second switching circuit of claim 1 of PAT704 in the display control circuit of the patent claims and to modify the timing circuit of the patent claims to control the switching circuits, as recited in claim 1 of PAT704, because it would have been obvious to one of ordinary skill in the art to recognize that the benefit for doing so would provide a display system in which high image contrast and brightness are achieved even at high rates of display.

Response to Arguments

10. Applicant's arguments, see pages 8-12 of the amendment, filed 07/31/2006, with respect to the rejection(s) of claim(s) 14, 16, 17, 25-29 and 39-58 under 35 USC 103(a) in the Office Action dated 08/10/2005, have been fully considered and are persuasive. Therefore, the rejection

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has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as discussed above.

Conclusion

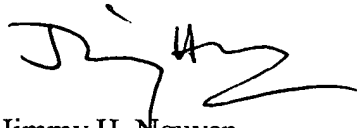
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675.

The examiner can normally be reached on Monday - Thursday, 7:00 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
October 16, 2006


Jimmy H. Nguyen
Primary Examiner
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